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| APPLICATION NO.                             | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/709,518                                  | 05/11/2004  | Krishna G. Sachdev   | FIS920030420US1     | 3517             |
| 32074                                       | 7590        | 12/28/2006           | EXAMINER            |                  |
| INTERNATIONAL BUSINESS MACHINES CORPORATION |             |                      | FEELY, MICHAEL J    |                  |
| DEPT. 18G                                   |             |                      | ART UNIT            | PAPER NUMBER     |
| BLDG. 300-482                               |             |                      | 1712                |                  |
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| HOPEWELL JUNCTION, NY 12533                 |             |                      |                     |                  |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 12/28/2006 | PAPER         |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                              |                     |  |
|------------------------------|------------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b>       | <b>Applicant(s)</b> |  |
|                              | 10/709,518                   | SACHDEV ET AL.      |  |
|                              | Examiner<br>Michael J. Feely | Art Unit<br>1712    |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11 October 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 26-33 and 35 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-25 and 34 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11 May 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____.                                     |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040511,20060728</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____.                         |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I (claims 1-25 and 34) in the reply filed on October 11, 2006 is acknowledged.
2. Claims 26-33 and 35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 11, 2006.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3, 4, 9, 13, 20-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3 and 9, it is unclear how carbon fibers and carbon micro-fibers could be considered "said metal filler particles".

Regarding claim 4, it is unclear how thermally conductive and electrically insulative inorganic filler could be considered "said metal filler particles".

Regarding claim 13, claim 13 recites the limitation "said thermally conductive and electrically insulative inorganic filler" in the composition of claim 1. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 20-24, claim 20 recites the limitation "the tertiary amine" in the method of claim 19. There is insufficient antecedent basis for this limitation in the claim. Furthermore,

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claims 20 and 21 contain the trademark/trade name (DMP-30). Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the curing catalyst and, accordingly, the identification/description is indefinite. Claims 21-24 are rejected because they are dependent from claim 20.

Regarding claims 22-24, these claims set forth the following anhydride curing additives in the method of claim 20: (22) comprises a mixture of MeHHP, HHPA, and methyl nadic anhydride; (23) DDSA or a mixture of DDSA and MA; and (24) HHPA. However, claim 20 explicitly discloses, *wherein said anhydride curing additive is a mixture of MeHHPA and HHPA*. Accordingly, the scope of claims 22-24 is uncertain. Furthermore, it is unclear what “MA” represents. *For the purpose of the prior art search, the scope of these claims will be treated as set forth in claim 20.*

Regarding claim 25, claim 25 contains the trademark/trade name (DMP-30). In the present case, the trademark/trade name is used to identify/describe the curing catalyst and, accordingly, the identification/description is indefinite. Furthermore, it is unclear what “MA” represents.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 6, 7, and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Sachdev et al. (US Pat. No. 5,700,581).

Regarding claims 1-3, 6, 7, and 14-18, Sachdev et al. disclose: (1) a re-workable conductive adhesive composition (Abstract; claims) comprising an epoxy based conductive adhesive (Abstract; claims) containing conductive metal filler particles (Abstract; claims column 6, lines 13-22) dispersed in a solvent-free hybrid epoxy polymer matrix (Abstract; claims); (2) wherein said solvent-free hybrid epoxy polymer matrix comprises a liquid epoxy precursor having a siloxane linkage and carrying an acyclic or alicyclic chain segment (Abstract; claims; column 5, lines 10-41), a solid or liquid anhydride or an amine curing additive (Abstract; claims; column 5, lines 42-63), an epoxy curing catalyst (Abstract; claims; column 6, lines 5-12), and a polymer additive completely miscible in said epoxy precursor (Abstract; claims, column 5, line 64 through column 6, line 4); (14) wherein said liquid precursor is selected from the group consisting of *see claim for list* (Abstract; claims; column 5, lines 10-41); (15) wherein said anhydride curing additive is selected from the group consisting of *see claim for list* (Abstract; claims); (16) wherein said polymer additive is selected from the group consisting of *see claim for list* (Abstract; claims; column 5, line 64 through column 6, line 4); (18) wherein said epoxy

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curing catalyst is selected from the group consisting of *see claim for list* (Abstract; claims; column 6, lines 5-12);

(3) wherein said metal filler particles are selected from the group consisting of Pd-coated Ag, Au coated Ag, Ag, Ag coated Cu, spherical Ag powder, carbon fibers, and carbon microfibers (column 6, lines 12-22); (17) wherein said metal filler particle size is less than 10 microns (column 6, lines 12-22);

(6) wherein said metal filler particles are metal flakes (column 6, lines 12-22); and (7) wherein said metal filler particles are metal powder (column 6, lines 12-22).

***Claim Rejections - 35 USC § 102/103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 6, 7, and 14-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sachdev et al. (US Pat. No. 6,548,175).

*Regarding claims 1-3, 6, 7, and 14-18,* Sachdev et al. disclose: (1) a conductive adhesive composition (Abstract; claims) comprising an epoxy based conductive adhesive (Abstract; claims; column 5, line 45 through column 6, line 2) containing conductive metal filler particles (Abstract; claims; column 7, lines 1-22) dispersed in a solvent-free hybrid epoxy polymer matrix (Abstract; claims);

(2) wherein said solvent-free hybrid epoxy polymer matrix comprises a liquid epoxy precursor having a siloxane linkage and carrying an acyclic or alicyclic chain segment (Abstract;

claims; column 5, line 45 through column 6, line 2), a solid or liquid anhydride or an amine curing additive (Abstract; claims; column 6, lines 13-32), an epoxy curing catalyst (Abstract; claims; 33-48), and a polymer additive completely miscible in said epoxy precursor (Abstract; claims; column 6, lines 49-67); (14) wherein said liquid precursor is selected from the group consisting of *see claim for list* (Abstract; claims; column 5, line 45 through column 6, line 2); (15) wherein said anhydride curing additive is selected from the group consisting of *see claim for list* (Abstract; claims; column 6, lines 13-32); (16) wherein said polymer additive is selected from the group consisting of *see claim for list* (Abstract; claims; column 6, lines 49-67); (18) wherein said epoxy curing catalyst is selected from the group consisting of *see claim for list* (Abstract; claims; column 6, lines 33-48);

(3) wherein said metal filler particles are selected from the group consisting of Pd-coated Ag, Au coated Ag, Ag, Ag coated Cu, spherical Ag powder, carbon fibers, and carbon micro-fibers (column 7, lines 1-22); (17) wherein said metal filler particle size is less than 10 microns (column 7, lines 1-22);

(6) wherein said metal filler particles are metal flakes (column 7, lines 1-22); (7) wherein said metal filler particles are metal powder (column 7, lines 1-22)

Sachdev et al. do not explicitly disclose that their composition is re-workable; however, this appears to be an inherent property because Sachdev et al. satisfy all of the material and chemical limitations set forth in the claims. It has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure,

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the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Therefore, the composition of Sachdev et al. would have been inherently re-workable because Sachdev et al. satisfy all of the material and chemical limitations set forth in the claims.

***Claim Rejections - 35 USC § 103***

9. Claims 4, 5, 8, 12, 13, and 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdev et al. (US Pat. No. 5,700,581).

Regarding claims 4, 5, 8, 12, and 13, Sachdev et al. disclose, “A preferred electrically conductive filler is Ag flakes having less than about 10 micron average size, although up to about 30 microns may be used or higher. Other fillers that can also be used are Ag powder, Au, Ni, Cu, silica, alumina, aluminum nitride, or a ceramic filler. Amounts up to about 80% or higher by weight of the total formulation may be employed with preferred amounts of 60% to 80% being typically employed,” (column 6, lines 12-22). This passage covers all of the individual materials and amounts set forth in the instant claims; however, these teachings do not explicitly set forth combinations of fillers.

It should be noted that Sachdev et al. essentially present these fillers as functional equivalents. In light of this, it has been found that, “It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art,” – *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the combination of materials, as set forth in claims 4, 5, 8, 12, and 13, in the composition of Sachdev et al. because Sachdev et al. presents these individual materials as functional equivalents.

Regarding claims 19-25, the teachings of Sachdev et al. are as set forth above and incorporated herein. Sachdev et al. disclose the general parameters of the instantly claimed process in their examples; however they fail to explicitly set forth the claimed sequence of adding ingredients.

In light of this, it has been found that the selection of any order of mixing ingredients is *prima facie* obvious – *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (*see MPEP 2144.04*).

Therefore, without a showing of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the sequence of adding ingredients, as set forth in claims 19-25, in the process of Sachdev et al. because Sachdev et al. disclose the general parameters of the claimed process.

10. Claims 8 and 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdev et al. (US Pat. No. 6,548,175).

Regarding claim 8, Sachdev et al. disclose the use of metal flake or powder; however, they fail to explicitly disclose a combination of the two.

It should be noted that Sachdev et al. essentially present these fillers as functional equivalents. In light of this, it has been found that, “It is *prima facie* obvious to combine two

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compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art,” – *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the combination of materials, as set forth in claim 8, in the composition of Sachdev et al. because Sachdev et al. presents these individual materials as functional equivalents.

Regarding claims 19-25, the teachings of Sachdev et al. are as set forth above and incorporated herein. Sachdev et al. disclose the general parameters of the instantly claimed process in their examples; however they fail to explicitly set forth the claimed sequence of adding ingredients.

In light of this, it has been found the selection of any order of mixing ingredients is *prima facie* obvious – *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (see MPEP 2144.04).

Therefore, without a showing of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the sequence of adding ingredients, as set forth in claims 19-25, in the process of Sachdev et al. because Sachdev et al. disclose the general parameters of the claimed process.

11. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdev et al. (US Pat. No. 5,700,581 or US Pat. No. 6,548,175) in view of McArdle et al. (US Pat. No. 6,977,025).

Regarding claim 9, the teachings of Sachdev et al. are as set forth above and incorporated herein. Sachdev et al. do not disclose the use of carbon micro-fibers in concert with their metal flakes or powders.

The teachings of McArdle et al. (*see column 31, line 18 through column 32, line 10*) demonstrate that carbon micro-fibers are recognized in the art as suitable conductive fillers for electronics applications. Furthermore, they are presented as equivalents to metal flake and powder (*see MPEP 2144.06 & 2144.07*)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to additionally use carbon micro-fibers in the composition of Sachdev et al. because the teachings of McArdle et al. demonstrate that carbon micro-fibers are recognized in the art as suitable conductive fillers for electronics applications. Furthermore, they are presented as equivalents to metal flake and powder.

Regarding claims 10 and 11, Sachdev et al. do not disclose the use of metallic hollow spheres or metal fibers.

The teachings of McArdle et al. (*see column 31, line 18 through column 32, line 10*) demonstrate that these conductive fillers are recognized in the art as suitable conductive fillers for electronics applications. Furthermore, they are presented as equivalents to metal flake and powder (*see MPEP 2144.06 & 2144.07*)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to additionally use metallic hollow spheres or metal fibers in the composition of Sachdev et al. because the teachings of McArdle et al. demonstrate that conductive fillers are

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recognized in the art as suitable conductive fillers for electronics applications. Furthermore, they are presented as equivalents to metal flake and powder.

12. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdev et al. (US Pat. No. 5,700,581 or US Pat. No. 6,548,175) in view of Buchwalter et al. (US 2002/0171132).

Regarding claim 34, Sachdev et al. disclose an electronic laminate featuring the conductive re-workable resin composition; however, they fail to explicitly disclose the package assembly of claim 34 with a heat spreader/heat sink bonded to device chips.

The teachings of Buchwalter et al. (*see Abstract*) demonstrate that re-workable epoxy adhesives are desirable for bonding semiconductive devices to a chip carrier or heat spreader. These teachings essentially demonstrate that re-workable adhesives used to bond devices to chip carriers, as set forth in Sachdev et al., are equally suitable for bonding devices to heat spreaders.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to bond a device chip to a heat spreader with the composition of Sachdev et al. because the teachings of Buchwalter et al. demonstrate that re-workable adhesives used to bond devices to chip carriers, as set forth in Sachdev et al., are equally suitable for bonding devices to heat spreaders.

#### ***Double Patenting***

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined

application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1, 2, 14-16, and 19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of U.S. Patent No. 5,700,581. Although the conflicting claims are not identical, they are not patentably distinct from each other because: the patented claims anticipate instant claims 1, 2, and 14-16 for the reasons set forth above in section 6; and the patented claims obviously satisfy claim 19 for the reasons set forth above in section 9.

15. Claims 3-8, 12, 13, 17, 18, and 20-25 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of U.S. Patent No. 5,700,581, in light of the specification (*see In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)). Although the conflicting claims are not identical, they are not patentably distinct from each other because: the patented claims, in light of the specification, anticipate instant claims 3, 6, 7, 17, and 18 for the reasons set forth above in section 6; and the patented claims, in light of the specification, obviously satisfy claims 4, 5, 8, 12, 13, and 20-25 for the reasons set forth above in section 9.

16. Claims 1, 2, 14-16, and 19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,548,175. Although the conflicting claims are not identical, they are not patentably distinct from each other because: the patented claims inherently satisfy instant claims 1, 2, and 14-16 for the reasons set forth above in section 8; and the patented claims obviously satisfy instant claim 19 for the reasons set forth above in section 10.

17. Claims 3, 6-8, 17, 18, and 20-25 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,548,175, in light of the specification (*see In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970). Although the conflicting claims are not identical, they are not patentably distinct from each other because: the patented claims, in light of the specification, inherently satisfy instant claims 3, 6, 7, 17, and 18 for the reasons set forth above in section 8; and the patent claims, in light of the specification, obviously satisfy claims 8 and 20-25 for the reasons set forth above in section 10.

18. Claims 9-11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of U.S. Patent No. 5,700,581 or over claims 1-15 of US Patent No. 6,548,175, in light of the specifications (*see In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970) and in view of McArdle et al. (US Pat. No. 6,977,025). The instant claims are obvious for the reasons set forth above in section 11.

19. Claim 34 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of U.S. Patent No. 5,700,581 or over claims 1-15 of US

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Patent No. 6,548,175 in view of Buchwalter et al. (US 2002/0171132). The instant claims are obvious for the reasons set forth above in section 12.

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely  
Primary Examiner  
Art Unit 1712

December 22, 2006

**MICHAEL FEELY  
PRIMARY EXAMINER**